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Appl. No. 10/022, 708
Amdt. Dated October 11, 2006
Reply to Office Action of July 11, 2006REMARKS

Applicants respectfully request further consideration of the amended claims in light of the attached Request for Continued Examination.

Applicants respectfully request review of the Examiner's rejection of claims 1 - 11 and 13 - 16 under 35 U.S.C. §102(b). The Examiner has rejected these claims in view of the cited prior art reference of *Kinugasa et al.* (U.S. Patent No. 5,043,817). The *Kinugasa* reference is directed to the implementation of two separate driving circuits for reading out signals from a solid-state image sensor having a plurality of photodiodes arranged in a two dimensional form. In a first read-out method for normal readout operation, the signals of the photodiodes of two rows adjacent to each other in a vertical direction are mixed with each other and then read out. (See the Abstract of the Invention) In a second read-out method for zooming-in operation the signals of the photodiodes of the two rows adjacent to each other in the vertical direction are separately read out and stored in a memory, and a memory driving circuit then reads out from the memory the signal stored in the memory in a time sequence different from the time sequence at which the signals had been stored in the memory. (See Column 3, lines 23 - 34). More specifically, as noted in Column 6, line 39 - Column 7, line 10, a particular method of reading-out only that portion of a zoomed-in area is implemented. As noted in Column 6, lines 47 - 51, until the portion of the image to be zoomed-in on is reached, the vertical CCDs are transferred at high speed. Thereafter, every row in the vertical CCD is read out every one horizontal scanning period until the end of the zoomed-in area is reached.

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Subsequently, the vertical CCD is again transferred at high speed until the remainder of the charges are transferred out of the vertical CCD (See Column 6, lines 51 – 59).

Most importantly, Kinugasa teaches that every charge transfer portion 17, which transfers the accumulated signal charge after having been read-out from the photodiode 16, is driven at the same time and at the same speed. More specifically, at no point does Kinugasa teach or suggest wherein one charge transfer portion 17 is driven at a different speed than another charge transfer portion, nor where one charge transfer portion 17 is driven while another charge transfer portion is halted. Accordingly, nothing in Kinugasa teaches or suggests Applicant's currently claimed invention.

In regard to the Examiner's rejection of the claims in the last Office Action, it has come to Applicant's attention that, although the Examiner never clearly states as much in the rejection, that the Examiner appears to be construing read-out gates 40 (shown only in Figure 18 of the Kinugasa figures) of the photodiodes 16 of the Kinugasa reference as reading-on Applicant's required "charge-transfer means." This is the only construction that would seem to meet the requirements of the claim limitation that the charge transfer is stopped in one group of sensors while charge transfer continues in another group of sensors. More specifically, Kinugasa teaches the read-out of the even rows of photodiodes (a first group of sensors) and a subsequent read-out of the odd rows of photodiodes (a second group of sensors). In order to further clarify the invention, Applicants have amended the claims to more specifically point out that the "charge-transfer means" required by the invention is a subsequent charge-transfer register which transfers signal charges after they are read-out from the pixel. Accordingly, the

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Examiner can no longer rely on Kinugasa's disclosure regarding alternating even/odd photodiode read-out timings in order to anticipate Applicant's currently claimed invention.

As amended, the plain language the independent claims now require that each of the sensor devices (of which the "first group of sensors" and "second group of sensors" are comprised of) be comprised of a pixel line and a charge transfer portion for further transferring signal charges after being read-out from each pixel of the pixel line. The Examiner has indicated that only Kinugasa's photodiodes 16 of Figure 6 meet the limitation of "a pixel line." (See page 2 of the Action). Accordingly, Applicants submit that only the photodiodes 16 in a vertical arrangement, and the corresponding vertical charge transfer portion 17 for transferring signal charges after read-out meet the limitation of "a sensor device."

In accordance with the proper construction of Applicant's claim language, Applicants submit that the Kinugasa fails to meet the plain limitations of the claim, which require that a first group of sensors be read out at a different timing as a second group of sensors, and wherein during a read-out period of a first group of sensors, transfer driving of one of the groups of sensors is stopped. As referenced above, Kinugasa clearly discloses throughout the specification that all of the charge-transfer portions 17 are always driven simultaneously and at the same rate.

In contrast, Applicant's invention is directed to the stopping of driving of a second group of sensors (for example, color sensors 21/22R, 21/22G, and 21/22B) during

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a read-out period of a first group of sensors (for example, monochrome sensors 11/12a/12e) when read-out of the signal charges in each group of sensors is performed at different timings (See Figure 2). As a result, Applicant's device completely eliminates the influence of noise originating from a first group of said sensor devices upon the second group of said sensor devices. Thus, scanning can be performed with high precision (See page 20 of Applicant's disclosure).

In the event that Applicant's have read too far into the Examiner's rejection, and that the plain language of the Examiner's rejection controls, Applicants note that the Examiner's rejection on page 3 of the Office Action is wholly unsupported by the Kinguasa reference. More specifically, the Examiner states in the first full paragraph on page 3 that "...during a read-out period of a first group of sensor (photodiode 16 of fig 6), stopping transfer driving of the signal charge of the other sensor (group of sensors 17 of fig 6) is performed." Applicants note that the current and previous claims required each group of sensor devices to comprise both a photodiode 16 and a charge-transfer part 17. However, the Examiner appears to be construing all of the photodiodes 16 as a "first group of sensors" and all of the charge transfer vertical CCDs 17 as a "second group of sensors." Applicants note that such a rejection fails to meet the plain language of the current and previous claims, which require that each group of sensors be comprised of one of each.

For at least the reasons cited above, Applicants submit that the Examiner's rejection under 35 U.S.C. §102(b) must be withdrawn, and claims 1 – 11 and 13 - 16 placed in condition for allowance.

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Applicants respectfully request reconsideration of Examiner's rejection of claim 12 under 35 U.S.C. §103(a). Examiner has rejected these claims in view of the cited prior art references of Kinugasa et al. (U.S. Patent No. 5,043,817) in view of Beckett (U.S. Patent No. 5,852,502). For at least the reasons cited above in regard to the Kinugasa reference, Applicants submit that the 35 U.S.C. §103(a) rejection must be withdrawn, and claim 12 be placed in condition for allowance. Furthermore, Beckett fails to teach or suggest anything regarding the stopping of the driving of the color sensors, or the use of different read-out timings applied to each group of sensors. Rather, Beckett actually teaches away from it (See Column 2, lines 35 – 41, which teaches the simultaneous driving of both sensors). Applicants note that the Court of Appeals for the Federal Circuit has held that "It is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983). Applicants note that the Examiner has failed to address this argument in the last Office Action. Applicants respectfully request the Examiner assert further arguments as to why one of ordinary skill in the art would be motivated to combine these references, in light of the teaching away, or else place this claim in condition for allowance.

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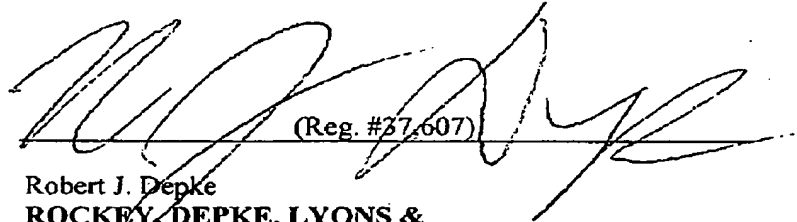
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For these reasons also, Applicants submit that the 35 U.S.C. § 103(a) rejection
must be withdrawn, and claim 12 be placed in condition for allowance

Respectfully submitted,

Date: 10/11/06


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